

Comprehensive Fisheries Survey of Pickerel Lake, Oneida County Wisconsin during 2008.

Waterbody Identification Code 1588900



John Kubisiak
Senior Fisheries Biologist
Rhinelander
March, 2009



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EXECUTIVE SUMMARY

A comprehensive fisheries survey was conducted in Pickerel Lake during spring and fall, 2008. Northern pike (population estimate, PE = 13.9 adults per acre) and largemouth bass (PE = 2.1 adults per acre), were the dominant gamefish, along with low numbers of walleye (PE = 0.4 adults per acre), muskellunge and smallmouth bass. All game species showed good size and appeared to be in excellent condition. Panfish species were also abundant, with moderate size and growth rates. We found high catches of black crappie, bluegill, pumpkinseed, yellow bullhead and yellow perch, along with low or moderate numbers of black bullhead, bluegill x pumpkinseed hybrids and rock bass. Non-game species in the catch include golden redhorse, golden shiner and white sucker. I recommend managing Pickerel Lake for northern pike, largemouth bass and panfish. Walleye are at low abundance despite a long history of stocking, and walleye stocking should be discontinued. Muskellunge are present at low abundance, but stocking would be ineffective because of predation by abundant northern pike. Other species are self-sustaining.

Lake and location:

Pickerel Lake, north-central Oneida County, T39N R08E Sec07. Pickerel Lake is in the town of Newbold, about 2 miles southwest of the city of Saint Germain. Pickerel is part of the Upper Wisconsin River watershed. It is fed by three inlets, including Border Creek, Saint Germain River and an unnamed tributary that originates to the east in Little Pickerel Lake. A dam with 10 feet of head and owned by Wisconsin Valley Improvement Company (WVIC) regulates the Saint Germain River outlet to Rainbow Flowage. However, Rainbow Flowage at full pool is 6.7 feet above Pickerel's full elevation. A constructed channel controlled by a dam with 6.5 feet of head drains to Dog Lake, diverting flow during most of the year when Rainbow levels are higher than Pickerel. The dams control an operating head of 9 feet on Pickerel Lake, but normal operations maintain the lake near full pool during the summer and draw it down four to five feet for the winter (Dave Coon, WVIC, personal communication).

Physical/Chemical attributes (Andrews and Threinen 1966):

Morphometry: 736 acres with maximum depth of 17 feet (from 1969 lake map, apparently includes lower reaches of Border Creek and Saint Germain River). Area from GIS (excluding tributaries) = 581 acres; Andrews and Threinen (1966) reported 477 acres.

Watershed: 78 square miles, including 120 acres of adjoining wetlands.

Lake type: Drainage. See description of dams under "lake and location," above.

Basic water chemistry: Soft – alkalinity 35 mg/l, conductance 90 μ mhos.

Water clarity: Clear water of low transparency.

Littoral substrate: 85% sand, 10% muck, and some gravel.

Aquatic vegetation: abundant

Winterkill: none reported.

Boat landing: One concrete plank ramp with parking for 15 vehicles with trailers.

Other features: Shoreline 80% upland with wetland adjoining portions of the lake.

Purpose of Survey: Assess status of game and panfish species, assess walleye stocking success and develop management recommendations.

Dates of fieldwork: Gamefish netting, April 27 to May 7 2008. Panfish netting, June 9-13 2008. Electroshocking (entire shoreline) May 7, May 20, May 27, June 10 and September 17, 2008.

BACKGROUND

A single sheet of netting data is from one net lifted 5 times during May 4-9, 1948. The catch was 128 walleye (12 – 24 inches), 12 largemouth bass (8-15 inches), 8 northern pike (15-21 inches), 3 muskellunge (36 inches), 12 bluegill (5-7 inches), 4 perch (5-7 inches), 13 rock bass (5-8 inches), 1 crappie (10 inches) and 564 suckers (9-21 inches).

A netting and shocking survey was conducted during 1979 (Joswiak 1980). Sixty net lifts during May 2-4 and June 5-8, 1979 captured 3.52 walleye, 5.18 northern pike, 0.07 muskellunge, 0.07 smallmouth bass and 0.03 largemouth bass per net-night. Panfish catch per net-night included 3.65 “sunfish”, 1.45 bluegill, 1.25 perch, 0.68 rock bass, 0.13 crappie and 0.02 bullhead. Length-at-ages for all species were generally at or slightly above regional average. Aquatic vegetation was described as “moderate” due to the sandy substrate.

A mark-recapture walleye survey in 1989 estimated 1,017 (\pm 151 SD), or 1.4 adult walleye per acre. An estimate was also attempted in 1992, but too few (67) walleye were captured.

A week of panfish netting by WVIC and DNR staff during September 9-13, 2002 (35 net nights) yielded catches (per net-night) of 0.29 walleye, 1.9 largemouth bass, 0.26 smallmouth bass, 0.06 muskellunge, 2.2 northern pike, 0.5 black bullhead, 11 black crappie, 204 bluegill, 0.8 bluegill x pumpkinseed hybrids, 33 pumpkinseed, 0.03 white sucker, 0.23 rock bass, 13 yellow bullhead and 12 yellow perch. Bluegill and pumpkinseed length-at-ages were behind regional averages until about age 6 (bluegill) and 4 (pumpkinseed), but caught up and were similar at older ages. Black crappie length-at-ages were similar to regional averages until age 5, and slightly ahead at older ages. Dense aquatic cover and low predator abundance were suggested as causes for over-abundance of bluegill and pumpkinseed, with angler harvest and cropping of large fish likely truncating the top of the bluegill and crappie size structure.

A single-day creel survey was conducted on July 10, 1949 (Threinen 1949), and a cooperative creel survey was conducted using “census cards” at resort cooperators during May through October, 1950 (Threinen and Morrison 1950) and May 27 through July 28 1952. A 9-month stratified-random creel survey was conducted during May 2, 1992 through March 1 1993, excluding the month of November. Catch reported on cards was less than 40 individuals per game species in the 1949 and 1952 surveys. Northern pike were the dominant gamefish caught (891) in the 1950 survey, followed by largemouth bass (447), walleye (412) and muskellunge (37). Northern pike dominated gamefish catch in 1992-93 (estimated 9,141 with an average harvested length of 20.7 inches), followed by 1,190 largemouth bass (13.5 inches), 154 walleye (21.0 inches), 129 muskellunge (the only measured fish was 41.5 inches) and 63 smallmouth bass (no harvest reported). In 1950, panfish catch was dominated by 3,646 yellow perch, followed by 3,149 bluegill and 1,206+ black crappie. Bluegill dominated the 1992-93 catch (estimated 37,719 with average length = 6.6 inches), followed by yellow perch (25,375 averaging 7.7 inches) and black crappie (10,949 averaging 8.5 inches).

Fall young-of-year (yoy) electroshocking surveys were conducted by DNR in 1979, 83, 89, 92, 2000-02 and 2008 and by GLIFWC in 1987 and 88. The 1979 survey covered 3 index stations along about half the shoreline. Forty-two walleye were captured in 1979, including 7 yoy and 6 age-1

(based on lengths), despite no stocking since 1976. A fall, 1983 survey found 1 apparent yoy walleye, while a 1988 survey did not capture any yoy. Other fall surveys were in stocked years. Hatchery walleye were marked with Oxytetracycline (OTC) in 2002 and 2008. Subsequent fall surveys found 6 and 9 yoy walleye, respectively, all bearing the OTC mark.

A walleye spawning reef was constructed in February, 2001 by placing gravel along a stretch of the north shoreline of Pickerel. Electrofishing along the reef on April 26, 2001 captured 44 male walleye, 13-19.4 inches in length and one 11-11.4 inch fish of unknown gender.

METHODS

The ice was about 85% out when 8 standard fyke nets (¾-inch mesh, bar measure) were set on April 27, 2008. The remaining ice went out on April 30, when 2 additional nets were set. These nets targeted walleye, northern pike and muskellunge. Five nets were pulled on May 3, two on May 4 and the remaining 3 nets were pulled on May 7. Effort totaled 68 net-nights.

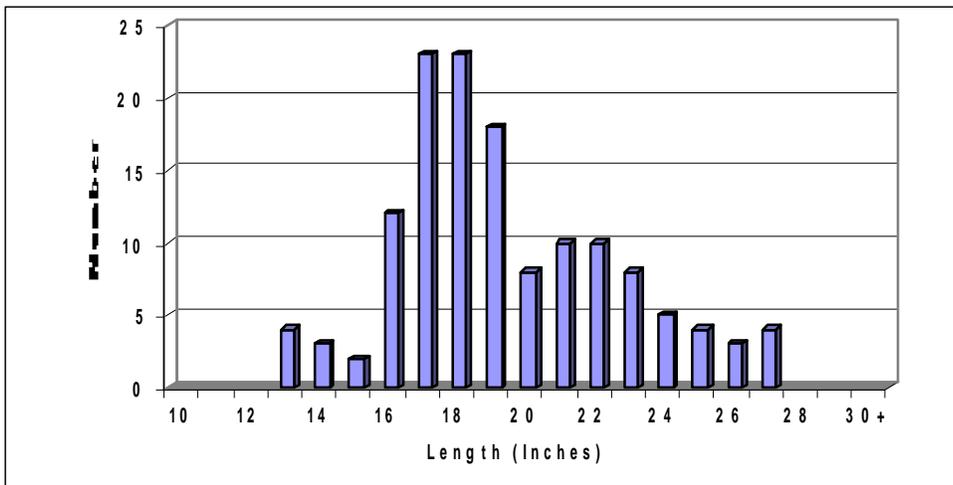
Two WDNR-standard alternating current electrofishing boats were used to collect gamefish on May 7, May 20, May 27 and June 10, 2008. Six standard fyke nets (except one ½-inch mesh was set to target smaller fish) were fished June 9-13, 2008 (24 net-nights), targeting panfish. Length or length category (nearest half-inch) was recorded for all gamefish. Adult gamefish were given a left-ventral fin clip and juveniles were given a top-tail clip for use in mark-recapture population estimates. Age structures (scales or spines) were removed from ten fish per species, per half-inch group.

RESULTS AND DISCUSSION

Walleye

During walleye netting, 137 walleye were captured in 9 nights, including 33 recaptures and 0 juvenile fish (walleye of unknown sex shorter than 15 inches), at a rate of 1.7 walleye per net night (Table 1). The electrofishing sample on May 7 yielded 27 walleye (2.1 fish per mile), including 11 juveniles. The mark-recapture population estimate of 305 adult walleye (± 91 SD), or 0.4 per acre, is well below the predicted value of 1.4 for a 736-acre lake supported by stocking. Around one walleye per acre is a minimum threshold for a “fishable” population, where an angler has a reasonable chance of catching a walleye.

Figure 1. Length-frequency of adult walleye during 2008 in Pickerel Lake, Oneida County WI.



Walleye showed good size but very little in the way of recent recruitment (Figure 1). Growth rates were excellent, with length-at-age approaching 2 years ahead of the regional average (Appendix A). Fall surveys during 1979 and 1983 found a few naturally-reproduced walleye, but the highest fall catches were 1.5 young-of-year and 6.7 age-1 per mile; both followed stocking. Stocking of small fingerlings has shown very limited success in Pickerel. The 0.82 yoy per mile found in fall, 2002 and 1.2 in 2008 were all of stocked origin, but are well short of the 15-20 per mile that would indicate a good yearclass. Most of the current population likely resulted from large fingerlings and adults stocked during 2000 through 2004 (Table 2). The spawning reef does not appear to have resulted in any measurable walleye recruitment. Given the poor results from fall recruitment surveys and low adult walleye abundance in 1989, 1992 and 2008, I recommend discontinuing the walleye stocking program on Pickerel. If future walleye stocking occurs it should consist of large fingerlings (4 to 8 inches) because of abundant predators and poor performance of small fingerlings.

Table 1. Fish catch per unit effort during a 2008 survey of Pickerel Lake, Oneida County WI. Netting catch rates are reported as number of fish per net night, while electrofishing catch rates are number of fish per mile of shoreline. Only gamefish data were collected during shocking runs.

species	spring netting	May 7 shocking	May 20 shocking	May 27 shocking	June 10 shocking	panfish netting
walleye	1.7	2.1	1.1	0.70	0.54	0.50
largemouth bass	2.1	3.3	3.9	5.9	5.4	0.25
muskellunge	0.47	0.23	0	0	0	0.042
northern pike	13.0	7.4	2.2	2.9	2.1	1.5
smallmouth bass	0.03	0.54	0	0.39	0.16	0
black bullhead	0.77					0.71
black crappie	122.9					8.4
bluegill	60.4					167.2
hybrid bluegill x pumpkinseed	1.9					3.6
golden redhorse	0.01					0
golden shiner	0.30					0
pumpkinseed	16.0					54.0
rock bass	3.2					2.2
white sucker	0.61					0
yellow bullhead	76.7					23.0
yellow perch	28.3					1.6

Table 2. Fish stocking record during 1990 through 2008 in Pickerel Lake, Oneida County WI.

Year	Species	Size	Number	Comments
1990	walleye	small fingerling (2 inch)	13,950	
1990	walleye	small fingerling (4 inch)	9,856	
1991	walleye	small fingerling (2.7 inch)	18,096	
1991	muskellunge	large fingerling (10.5 inch)	700	
1992	walleye	small fingerling (2 inch)	9,888	
1993	muskellunge	large fingerling (11.0 inch)	1,400	
1994	walleye	small fingerling (3.0 inch)	18,502	
1995	muskellunge	large fingerling (11.3 inch)	1,400	
1996	walleye	large fingerling (5.6 inch)	1,543	
1997	largemouth	large fingerling (3.4 inch)	123	
1998	walleye	small fingerling (1.5 inch)	73,600	
1999	largemouth	large fingerling (4.8 inch)	297	
2000	walleye	small fingerling (1.9 inch)	42,763	
2000	walleye	yearling (7.0 inch)	752	private stocking
2001	walleye	fry (0.3 inch)	4,000,000	
2001	walleye	large fingerling (6-8 inch)	678	private stocking
2002	walleye	adult (15-23.4 inch)	87	field transfer from Big Crooked
2002	walleye	small fingerling (1.4 inch)	36,800	
2002	walleye	large fingerling (8 inch)	694	private stocking
2003	walleye	fry (0.5 inch)	5,400,000	
2003	walleye	large fingerling (7 inch)	408	private stocking
2004	walleye	adult (16-24.4 inch)	47	field transfer from Big Crooked
2004	walleye	small fingerling (1.3 inch)	36,785	marked with Oxytetracycline
2006	walleye	small fingerling (1.9 inch)	25,760	marked with Oxytetracycline
2008	walleye	small fingerling (1.7 inch)	25,760	marked with Oxytetracycline

Largemouth and Smallmouth Bass

Three hundred seventy-seven largemouth bass were captured during spring sampling, including 27 recaptures of previously-marked fish and 3 juveniles smaller than 8 inches in length. The mark-recapture population estimate is 1,560 adult largemouth bass (± 405 SD), or 2.1 per acre. Largemouth bass size structure was dominated by a broad range of 9 to 16 inch fish (Figure 2). The longest bass was 19.3 inches and 44% were 14 inches and larger. Fifteen smallmouth bass were captured during the survey, distributed fairly evenly from 9 to 19.6 inches. Length-at-ages of both species of bass were about a year ahead of regional averages.

Northern Pike

We captured 1,220 northern pike (including 54 recaptures of previously-marked fish and 11 immature fish less than 12 inches in length). The northern pike population (including sexually mature fish and all fish over 12 inches) was estimated at 10,270 ($\pm 1,397$ SD), or 13.6 per acre, using the Schnabel multiple-capture method (Ricker 1975). This is considered high density for a northern pike population. Male and female populations were estimated as 10.6 (± 3.1) and 4.6 (± 0.75) per acre, respectively. Average size of adult northern pike was 17.6 inches and less than 3% of adult pike were 26 inches or larger (Figure 3). Length-at-ages were over a year behind regional averages for male pike (Appendix A). Female pike lengths were above average at ages 2 -3 and 7-9, but were

about a year behind average for ages 4-6 (Appendix A). The largest northern pike was a 38.7 inch female; it was assigned 15 years of age from its cleithrum.

The poor size structure despite good growth potential in Pickerel Lake make it a good candidate for producing more quality-size northern pike, although the abundant shallow habitat and slow growth might cause over-abundance of small fish. A 22 to 30-inch protected-slot length limit would encourage harvest of small pike but allow medium-size fish to survive to a larger size.

Figure 2. Length-frequency of adult largemouth bass during 2008 in Pickerel Lake, Oneida County Wisconsin.

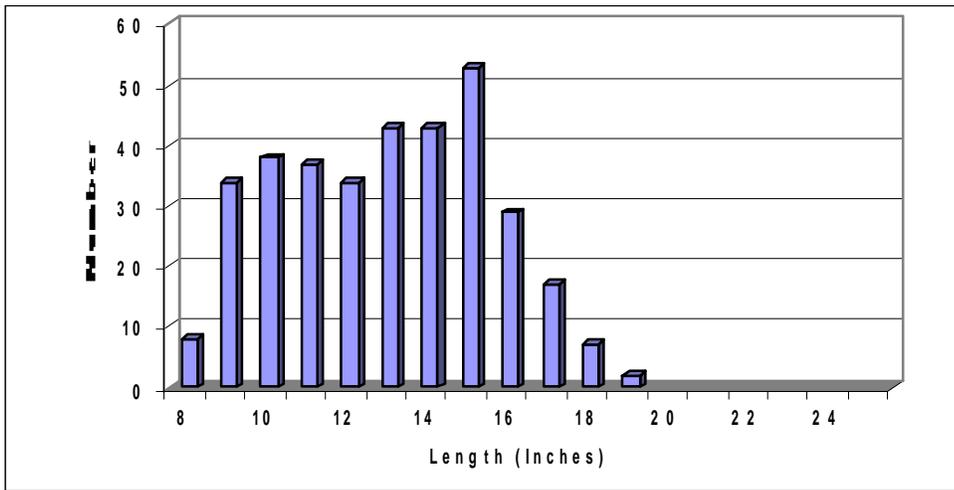
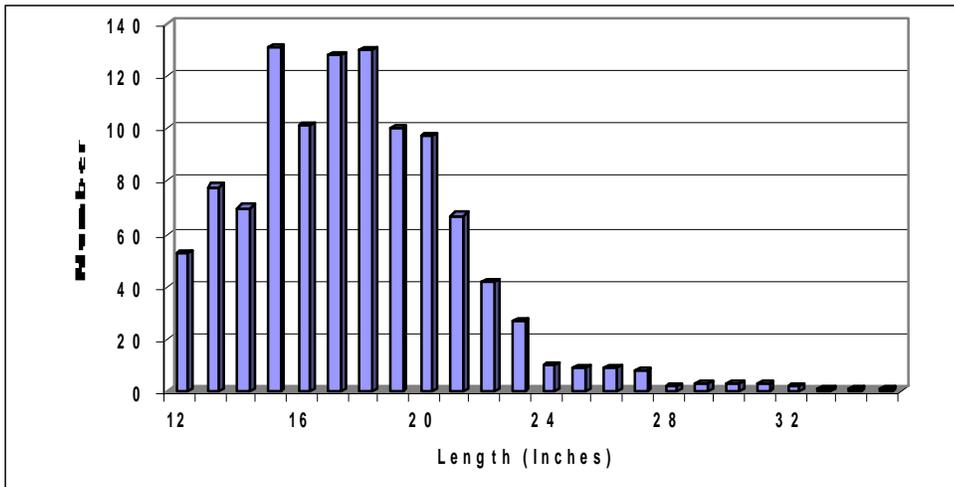


Figure 3. Length-frequency of adult northern pike during 2008 in Pickerel Lake, Oneida County Wisconsin.



Muskellunge

Thirty-four muskellunge were captured during the survey, including only one recapture of a previously-marked fish. Muskellunge ranged from 31.6 to 50.5 inches in length. The largest fish was a 50.5 inch, 35.1 pound female, aged at 13 years based on a scale (Figure 4). Scale ages tend to underestimate the age of older muskellunge, but accurate aging structures like otoliths and cleithral

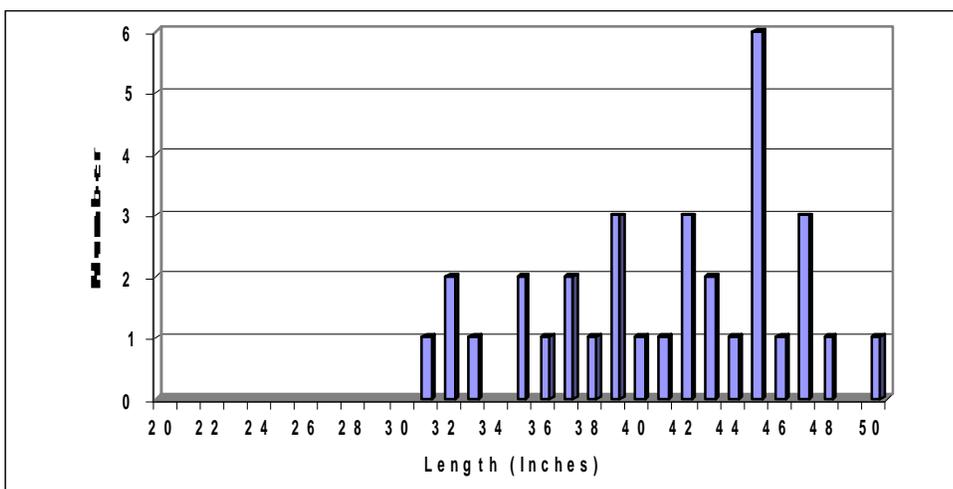
bones require the fish to be sacrificed. One 46.0-inch female muskellunge that died after release was aged at 13 from a cleithrum.

Large fingerling muskellunge were stocked in Pickerel Lake as recently as 1995. However, muskellunge stocking is generally ineffective in lakes dominated by northern pike, most likely due to heavy predation by the northern pike (Margenau 1999). Given the strong population of northern pike, our low catch of muskellunge and no juvenile fish in the catch, recruitment appears to be occurring at a low rate (Figure 5). Muskellunge in other systems have shown a tendency to migrate over dams. Downstream migration from Webster Lake is credited for establishing a muskellunge population in Tippecanoe Lake, Indiana (Pearson 2006) and researchers in Iowa documented heavy losses of adult muskellunge over the Okoboji Dam (Andy Fowler, Iowa Department of Natural Resources, personal communication). Pickerel Lake is likely colonized by fish from Big Saint Germain Lake that pass downstream over the outlet dam to the Saint Germain River.

Figure 4. The author with a 50.5-inch Pickerel Lake muskellunge captured on May 1, 2008.



Figure 5. Length-frequency of adult muskellunge during 2008 in Pickerel Lake, Oneida County WI.



Panfish

Pickerel is a shallow lake with moderate fertility and abundant aquatic vegetation, resulting in high panfish abundance. Bluegill dominated the panfish catch, with a June catch of 167 bluegill per net night. Black crappie were numerically dominant in the early netting period, at 123 per net night. There were also high numbers of pumpkinseed, bluegill x pumpkinseed hybrids, yellow bullhead and yellow perch (Table 1).

The high panfish densities in Pickerel might be expected to retard growth. Bluegill catch of over 150 per net night is considered very high density and is usually associated with over-population and stunting. Length-at-ages were about 1-2 years behind the regional averages for bluegill, about average or a little slow for pumpkinseed and rock bass, average for yellow perch and about a year ahead of average for black crappie (Appendix A). Despite the high abundance, panfish size structure in Pickerel Lake was reasonable (Figures 6-11).

Figure 6. Length-frequency of bluegill during 2008 in Pickerel Lake, Oneida County Wisconsin.

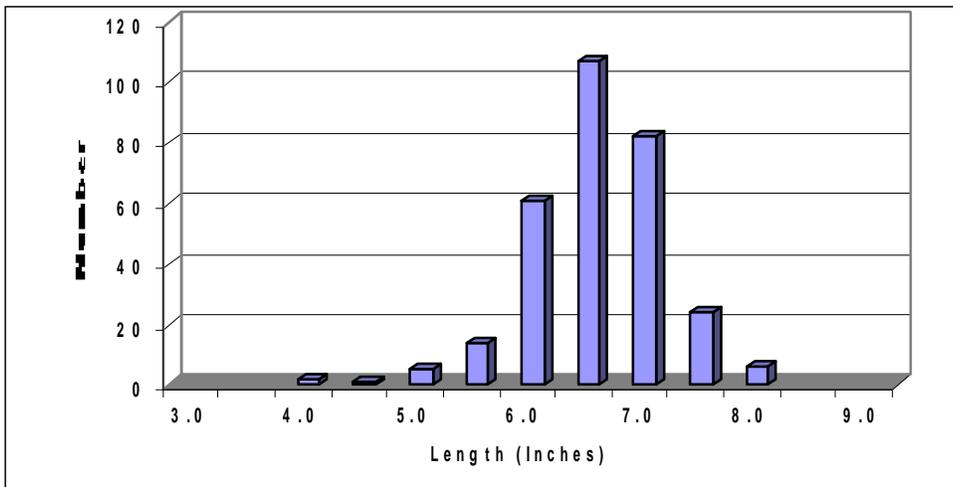


Figure 7. Length-frequency of pumpkinseed during 2008 in Pickerel Lake, Oneida County Wisconsin.

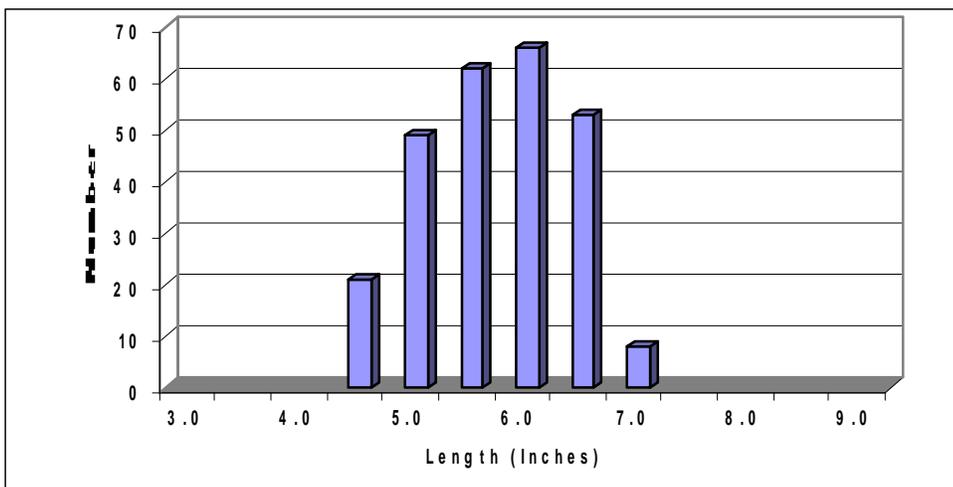


Figure 8. Length-frequency of bluegill x pumpkinseed hybrids during 2008 in Pickerel Lake, Oneida County Wisconsin.

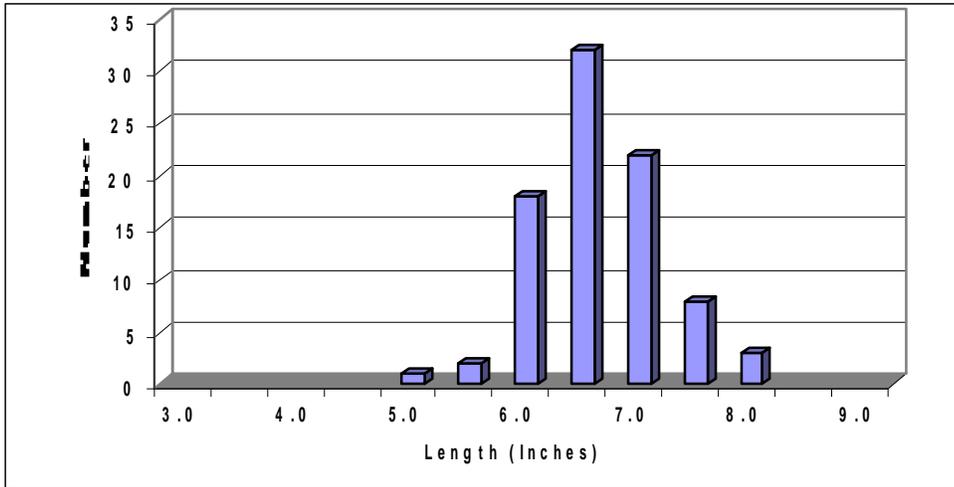


Figure 9. Length-frequency of yellow perch during 2008 in Pickerel Lake, Oneida County Wisconsin.

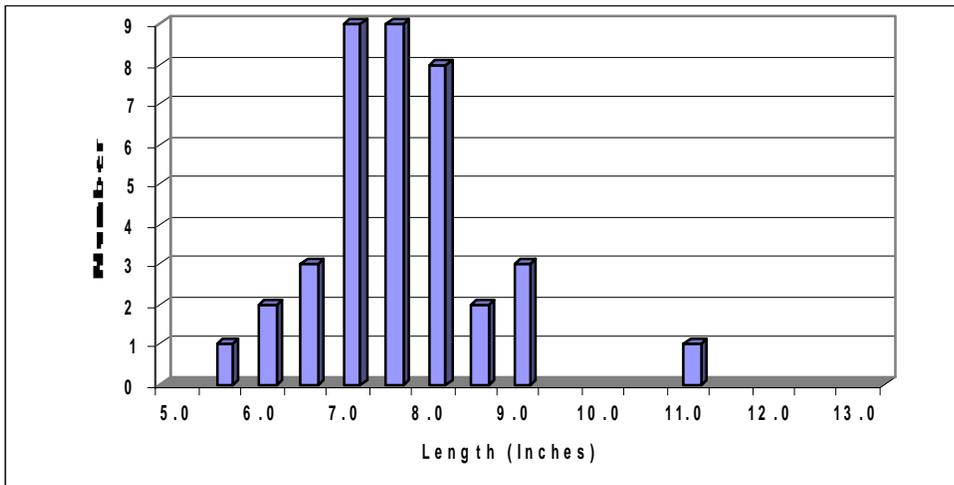


Figure 10. Length-frequency of black crappie during 2008 in Pickerel Lake, Oneida County Wisconsin.

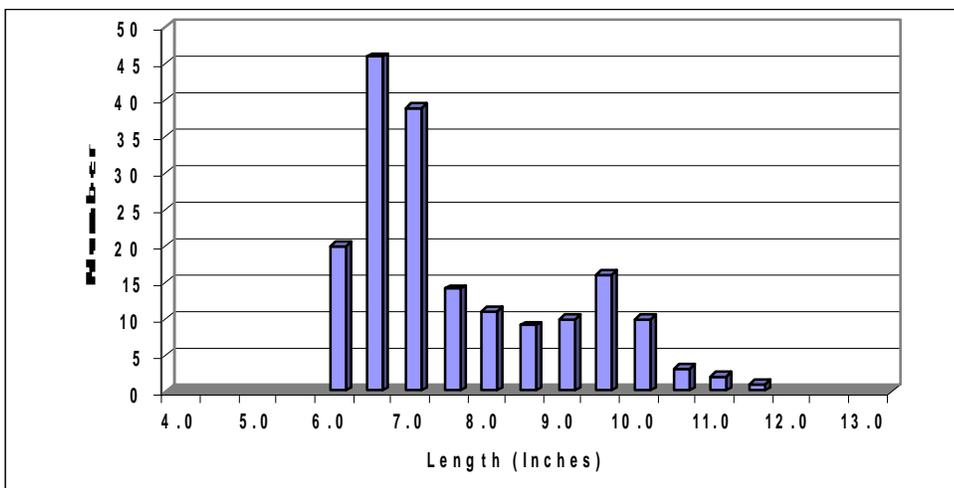


Figure 11. Length-frequency of rock bass during 2008 in Pickerel Lake, Oneida County Wisconsin.

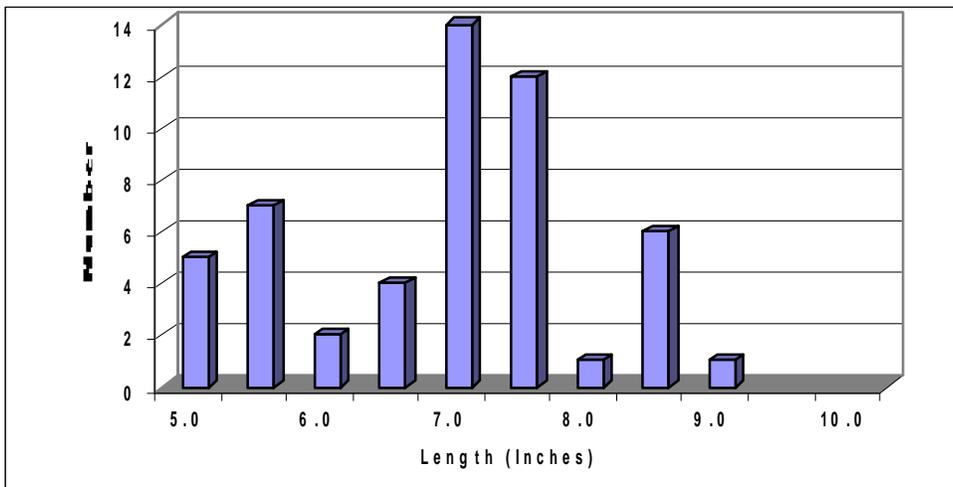
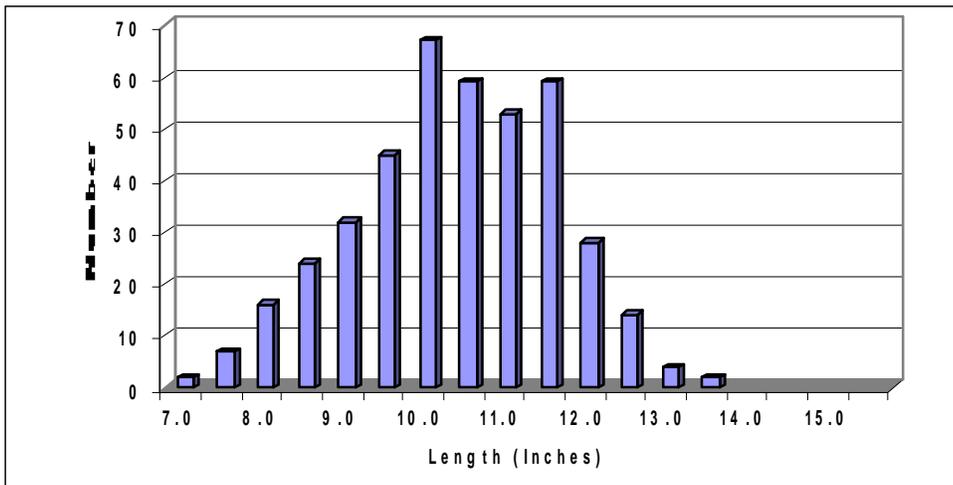


Figure 12. Length-frequency of yellow bullhead during 2008 in Pickerel Lake, Oneida County Wisconsin.



MANAGEMENT RECOMMENDATIONS

Pickerel Lake supports a diverse fishery. Northern pike and largemouth bass were the dominant gamefish, along with a low-density walleye population supported by stocking. Only 15 smallmouth bass and 34 muskellunge were captured. Size structure of game species was excellent, and the fish appeared to be very healthy. Bluegill and black crappie dominated the panfish catch, and pumpkinseed, yellow bullhead and yellow perch were also found at relatively high abundance, with lesser numbers of bluegill x pumpkinseed hybrids, rock bass and black bullhead. Forage and non-game species included golden redhorse, golden shiner and white sucker. Pickerel is best managed for northern pike, largemouth bass and panfish. A protected-slot length limit has potential to protect quality-size northern pike.

Pickerel Lake contains broad expanses of submerged vegetation and the habitat is much better suited to northern pike, largemouth bass, black crappie and bluegill than walleye. Abundant predators at fry, fingerling and juvenile stages likely limit walleye recruitment. The few walleye that make it through the predator gauntlet are able to grow rapidly to a quality size, but a spawning reef and

stocking have been relatively ineffective at establishing a population. Muskellunge stocking is ineffective in lakes with abundant northern pike and is not recommended. It is likely that at least part of Pickerel's walleye and muskellunge populations are a result of downstream migration from the Big Saint Germain Lake outlet dam via the Saint Germain River.

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Steve Timler and I supervised the field work for this survey with assistance from Jeff Blonski, Marty Kiepke, Steve Kramer, Tanya Meives, Aaron Nelson, Nicole Nikolaus, John Schinker, Brad Shucha, Tim Tobias, Joelle Underwood and Keith Worrall. Steve Timler assigned fish ages from spines and scales and Mike Coshun calculated the walleye and bass population estimates.

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Cover image courtesy of TerraServer-USA website and the United States Geological Survey. <http://terraserver-usa.com>

APPENDIX A FISH AGE RESULTS

For species with at least 50 lengths, the aged subsamples were applied against the full length-frequency to eliminate bias from a non-random subsample.

Table A.1. Male walleye length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
3	7	14.3	11.6
4	4	17.0	13.0
5	10	17.3	14.5
6	12	18.11	15.8
7	3	19.3	16.9
8	1	18.2	18.1
9			18.9
10			19.7
11			20.4

Table A.2. Female walleye length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
4	1	18.4	14.7
5	9	19.5	16.1
6	12	20.2	17.6
7	18	21.0	19.5
8	9	23.3	21.2
9	1	25.3	22.6
10	3	26.7	23.8
11	2	27.7	24.9

Table A.3. Largemouth bass length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
2	2	7.9	6.6
3	44	10.8	8.9
4	7	12.3	10.5
5	22	14.0	12.1
6	13	15.5	13.6
7	14	16.0	14.9
8	11	17.6	15.8
9	8	18.1	16.2
10			17.1

Table A.4. Smallmouth bass length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
2	2	10.8	6.9
3	3	10.7	9.3
4	1	11.4	11.8
5	3	15.4	13.5
6	2	16.3	15.2
7	1	17.3	16.1
8	1	18.4	17.1
9			17.7
10	1	19.6	18.3

Table A.5. Male muskellunge length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
5	2	32.9	29.2
6	3	33.1	33.7
7			35.8
8	2	37.5	38.1
9	2	37.5	39.5
10	3	39.4	41.0
11	1	42	43.2
12	1	40.2	43.7
13	1	39.2	44.3

Table A.7. Male northern pike length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
2	31	11.7	13.4
3	30	15.5	16.2
4	42	17.2	18.9
5	20	17.8	20.6
6	9	19.4	22.3
7	4	20.5	23.4
8	3	21.0	24.8
9			23.9

Table A.9. Bluegill length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
3	3	4.6	5.0
4	3	5.9	6.2
5	6	5.9	6.8
6	9	6.4	7.8
7	17	6.7	8.2
8	9	7.0	8.7
9	10	7.5	8.7
10	6	7.6	9.2
11			
12	1	7.5	

Table A.6. Female muskellunge length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
5			29.2
6			31.5
7			33.3
8	1	42.6	34.4
9	1	37.0	35.8
10	2	46.4	37.3
11	9	44.9	37.9
12	2	46.8	39.0
13	4	47.5	38.9

Table A.8. Female northern pike length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
2	35	13.0	
3	34	17.2	16.9
4	49	19.5	20.4
5	20	20.5	23.1
6	15	23.3	24.4
7	11	27.4	27.3
8	11	28.3	28.8
9	3	33.0	32.1
15	1	38.7	

Table A.10. Pumpkinseed length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
3	10	5.1	4.8
4	17	5.5	5.7
5	11	6.2	6.5
6	11	6.5	6.8
7	8	6.9	7.3
8	1	6.1	7.3

Table A.11. Hybrid bluegill x pumpkinseed length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length
4	1	5.4
5	4	6.1
6	11	6.7
7	20	7.0
8	5	7.1
9	2	7.0

Table A.13. Rock bass length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
3	2	5.5	5.1
4	13	5.8	6.4
5	15	7.2	7.2
6	6	7.6	7.9
7	4	7.9	8.4
8	4	8.6	9.0
9	1	8.9	9.4

Table A.12. Black crappie length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
2	38	7.0	5.3
3	31	8.2	7.1
4	20	9.9	9.0
5	5	11.1	10.0
6			10.7
7			11.6
8			11.7
9			10.4

Table A.14. Yellow perch length at age in Pickerel Lake, Oneida County Wisconsin during 2008.

Age	Number of fish	Pickerel avg. length	Northern WI avg.
3	2	6.3	6.0
4	16	7.1	6.9
5	10	8.0	7.9
6	9	8.3	9.0
7	1	11.1	9.9
8			10.8
9			12.1

